

Appln. No. 09/435,770
Amd. dated May 22, 2006
Reply to Office Action of January 27, 2006

REMARKS

The Office Action and the cited and applied reference have been carefully reviewed. No claim is allowed. Claims 60-64 and 66-74 presently appear in this application and define patentable subject matter warranting their allowance. Reconsideration and allowance are hereby respectfully solicited.

Claims 60, 61, 66-70 and 72 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. This rejection is obviated by the amendment to the claims.

Claims 62, 63, 64, 69, 70, 71, 73 and 74 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed.

The examiner indicated that amending the claims to recite that the claimed fragments have the activity of forming a non-reducing saccharide having a trehalose structure as an end unit from a reducing partial starch hydrolysate may overcome this part of the rejection. With due respect to the examiner, the purified non-reducing saccharide-forming enzyme recited in claim 62 is defined as a fragment of an enzyme comprising the amino acid sequence of SEQ ID NO:1, which fragment is further defined as an enzyme having the activity "forms a non-reducing saccharide having a trehalose structure as an end unit from a reducing partial starch hydrolysate." Applicants believe that the activity of the fragment is already clearly defined. However, if the examiner would prefer that this recitation of activity be moved into the "wherein" clause, applicants are willing to do so.

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The rejection insofar as claims 69, 70 and 73 are concerned is obviated by the deletion of the phrase "and mutants thereof".

With regard to claim 74, it is respectfully emphasized that this claim recites numerous physicochemical properties that provide a fingerprint of the enzyme claimed. These physicochemical properties are the features commonly possessed by the claimed enzyme and allow one of skill in the art to distinguish the claimed enzyme from others. Accordingly, one of skill in the art would recognize that applicants were in possession of a genus of non-reducing saccharide forming enzymes having the numerous commonly possessed physicochemical properties.

Reconsideration and withdrawal of the rejection are thereof respectfully requested.

Claim 74 has been rejected under 35 U.S.C. §102(b) as being anticipated by Nakada et al., *Biotechnol. Biochem.* 59(12):2215-2218 (1995) (Abstract). This rejection is respectfully traversed.

It is respectfully pointed out that the cited and applied Nakada et al. reference does not disclose a "non-reducing saccharide-forming enzyme" as presently claimed but rather a "trehalose-releasing enzyme", which is not the same enzyme or enzymatic activity. Perhaps the examiner had intended to cite and apply Nakada et al., *Biotechnol. Biochem.* 59(12):2210-2214 (1995), which will be referred to here as "Nakada's second publication". This second publication discloses "a non-reducing saccharide-forming enzyme". However, the presently claimed non-reducing saccharide-forming enzyme can be distinguished from the enzyme disclosed in Nakada's second publication in its optimum

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temperature and thermal stability. As recited in claim 74, the claimed enzyme has an optimum temperature of about 50°C, which is 10°C higher than that of the enzyme disclosed in Nakada's second publication. Moreover, the enzyme recited in claim 74 is stable up to a temperature of about 55°C, which is 15°C higher than that of the enzyme disclosed in Nakada's second publication. Accordingly, Nakada cannot anticipate the enzyme recited in claim 74.

Reconsideration and withdrawal of the rejection are therefore respectfully requested.

In view of the above, the claims comply with 35 U.S.C. §112 and define patentable subject matter warranting their allowance. Favorable consideration and early allowance are earnestly urged.

Respectfully submitted,

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